

# INSTALLATION AND OPERATING INSTRUCTIONS

## PHILCO

REG. U. S. PAT. OFF.

### TRANSITONE

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## MODEL 818

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**T**HE PHILCO AUTO RADIO MODEL 818 is Philco's newest DeLuxe automobile radio. It is a highly developed super-heterodyne with a large electro-dynamic speaker built in the Receiver and an additional electro-dynamic speaker for installation on the header bar above the wind-shield. This unique use of two electro-dynamic speakers, together with all the modern features required in such a DeLuxe instrument gives better reproduction and sound distribution in an automobile than has ever been obtained before.

**THIS NEW RECEIVER IS EQUIPPED WITH AN ADJUSTABLE ANTENNA STAGE WHICH MAKES IT POSSIBLE TO OPERATE THE RECEIVER AT MAXIMUM EFFICIENCY ON ANY ROOF-TYPE OR UNDER-CAR-TYPE ANTENNA.**

The Receiver, the full-size speaker and the new, improved full-wave Philco Vibrator are housed in a rugged, compact, fully shielded container, designed especially for quick and easy installation on the dash of all automobiles with two "Tee" bolts. The installation in most cars can be made easily above the steering column. The metal housing of the overhead speaker is finished in a neutral shade to match the interior car finish and is equipped with an adjustable mounting bracket so that the speaker can be installed in practically all cars.

All tubes used are the latest Philco high-efficiency tubes, designed especially for automobile radio. Some of these tubes each perform the functions formerly requiring two or three

tubes, thereby effecting greater tube economy, reducing the number of tubes necessary for satisfactory operation, and also reducing the amount of current taken from the car battery to a minimum.

The speaker panel of the Receiver is easily removed so that tubes and vibrator are accessible for service.

Philco's system of automatic volume control used in this Receiver gives smooth elastic control, counteracts fading while driving along, and prevents blasting of local stations.

Philco's full range tone control permits the selection of the tone desired.

This new all-electric Receiver is equipped with improved interference filters and especially designed shielding to eliminate motor interference, making it possible to install it quickly and easily.

The new streamline "wide vision" control can be installed on the edge of the instrument board. This control unit is exceptionally attractive and is designed to blend harmoniously with the instrument boards of practically all cars. The radio switch, tuning control, volume control, tone control and sensitivity switch are all right at the finger tips on the control unit.

There are only two connections to make, one to the antenna, and the other to the ammeter binding post.

Now, more than ever, **THE NEW PHILCO AUTO RADIO IS EASY TO INSTALL** and is a **PLEASURE TO OPERATE.**

## GENERAL INSTRUCTIONS

**ANTENNA**—In cars equipped with a top antenna, the lead-in is generally brought down one of the windshield pillars and coiled behind the cowl trim panel. In such cases, the Receiver antenna lead must be spliced to the antenna lead-in as close as possible to the corner post. Ground the shield pigtail to the cowl panel under a convenient screw.

In cars having an all-metal turret top, the Philco special Under-car Antenna (Part No. 45-1128 Kit) should be installed. The shielded antenna lead-in furnished with the kit must be brought up through the floor of the car to the Receiver. Keep the lead-in out of the motor compartment. Complete instructions are furnished with the antenna kit.

**RECEIVER INSTALLATION**—The Receiver must be installed under the cowl on the dash. Be sure that in the location selected, there is ample foot room and that the Receiver does not in any way interfere with operation of the control pedals and ventilators. The Receiver can be installed on the right side of the dash, in the center or on the left side, above the steering column. Figure 3 shows a typical installation with the Receiver on the left side.

A cardboard template is provided so that the mounting bolt hole locations can be easily and accurately marked on the dash. The Receiver fastens to the dash with two "Tee" bolts. (See Figure 1). Drill two 7/16 inch holes and loosely assemble the "Tee" bolts. Install the Receiver on the dash and hook the "Tee" bolts into the brackets on the Receiver. Tighten the Receiver securely in place.

**OVERHEAD SPEAKER INSTALLATION**—Take out the adjustment screws on the side of the speaker housing. Fit the speaker in place against the headlining with the adjustable mounting bracket flush against the header-bar in the center above the windshield. Then pull the bracket out as far as possible so that it can be used as a template for marking the location of the mounting screw holes. Drill four holes in the metal header-bar brace, using a No. 29 drill, and fasten the bracket securely to the header with four No. 8 slotted hex-head self-tapping screws.

Place the rubber grommet on the speaker cable about six inches from the terminal end. The colors of the wires in the speaker cable correspond with the color marks on the speaker panel terminals to which they must be connected. After the cable is connected to the speaker, the grommet should be placed in the "U" slot in the edge of the speaker housing. Push the

speaker against the headlining and tighten the adjustment screws on the side of the speaker housing.

The cable should be dressed in back of the upper edge of the header-bar trim and brought over to the right corner post. Dress the cable down along the windshield moulding, fastening with cable clips wherever required. Connect the speaker plug into the outlet in the side of the Receiver housing. Dress the slack cable and fasten in place.

On some of the 1935 and 1936 cars, there is a fish wire in the front corner post for drawing the overhead speaker cable up the corner post and across the front, in back of the header panel. On General Motors cars, the fish wire is brought down the left corner post and is fastened at the top in the center, behind the header. Gently pull down the top edge of the header trim. This will expose the end of the fish wire which can then be used for drawing the speaker cable up the left corner post.

**CONTROL UNIT**—The control unit fastens to the bottom edge of the instrument board. (Figure 3 shows a typical installation). Drill two holes in the instrument board flange in the desired location and fasten the control mounting bracket securely by means of bolts and nuts. Seat the volume control shaft end in the proper bushing on the Receiver housing and fasten the shaft casing nut securely. (See Figures 2 and 3). Before coupling the tuning control shaft to the Receiver, turn the tuning control knob counter-clockwise to the mark below 55 on the scale. To couple the shaft, turn the knob counter-clockwise slowly until the shaft end is seated in the bushing and tighten the knurled casing nut securely with the fingers.

To adjust the setting of the control unit, after coupling the flexible shaft to the Receiver, turn the tuning control knob counter-clockwise as far as possible.

**"A" BATTERY CONNECTIONS**—Place the fuse and fuse insulator in the metal fuse housing in the control "A" lead. Couple this to the short Receiver lead and then connect the other "A" lead to the ammeter stud on the rear of the instrument board.

**ANTENNA CONNECTIONS**—When the radio is installed in a car having a top screen antenna, an under-car antenna, spare wheel antenna or an antenna having a similarly low capacitance (50 mmfd. to 450 mmfd.) — place the "connector



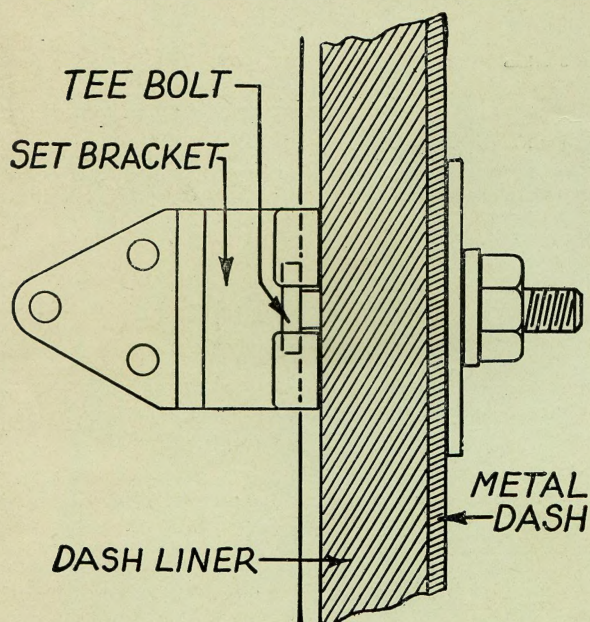


FIGURE 1

plug" in the antenna lead connector and then plug the antenna lead into the antenna lead connector. (See Figure 2).

When the radio is installed in a car having a metal insert top antenna, insulated door antenna, insulated trunk cover or an antenna having a similarly high capacitance (450 mmfd. to 2500 mmfd.) place the "condenser connector" in the antenna lead connector and then plug the antenna lead into the antenna lead connector.

**LOCAL - DISTANCE SWITCH CONNECTION**—The local-distance switch is on the bottom of the control head. Connect the black lead coming from the switch to the Receiver. The location of the local-distance connector is shown in Fig. 2.

**ANTENNA COUPLING ADJUSTMENT**—Turn on the radio and tune in a *weak broadcast signal at approximately 75* on the control scale. The volume control should be turned well up. With a small screw driver, adjust the antenna coupling condenser for the maximum signal. For location of the coupling condenser, see Figure 2.

**MOTOR INTERFERENCE SUPPRESSION**—Remove the coil-to-distributor high tension lead from the distributor. Cut two inches from the end of the lead and screw on the distributor resistor. Then plug the distributor resistor into the distributor cap.

While the standard distributor resistor can be used in most cases, there will be occasions when it will be necessary to use a double end screw type resistor (Part No. 4851) in the coil-to-distributor high tension lead, close to the distributor. Cars equipped with two ignition coils require two distributor resistors. Extra resistors can be obtained from the nearest Philco dealer or distributor.

Two interference condensers are furnished — one must be connected to the generator side of the cut-out, the other to the battery side of the primary of the ignition coil or to the ignition switch. The condenser bracket must be fastened securely to a grounded metal part of the car. The condenser on the generator usually can be fastened to the generator housing under the same screw that holds the cut-out, while the coil condenser can usually be fastened under the coil mounting bolts.

In some cases, it may be necessary to connect an additional condenser to the ammeter or to the dome light lead at the corner post.

On some cars a condenser can be used to advantage on the electric oil gauge or on the gas gauge. Connect the condenser to the terminal of the gauge and bolt the condenser securely to the frame or some other grounded part of the car.

Interference from electric clocks can be eliminated by connecting an interference condenser to the ammeter terminal.

Thirty inches of  $\frac{1}{2}$ " copper braid is furnished for use as ground straps as required.

In some particularly stubborn cases, bonding the steering column to the dash with a short lead will be effective. Clean the paint from the steering column at the dash where it enters the motor compartment and solder on a short piece of braid, grounding this to the dash.

In other cases it may be necessary to ground the tubing and rods coming thru the dash in order to reduce the interference. (See Figure 4). Clean them with emery cloth and spot solder the braid, fastening the end under a convenient screw. When an under-car antenna is used it may be necessary to ground the exhaust pipe to the frame of the car with a piece of copper braid. The ground connection should be made ahead of the dash.

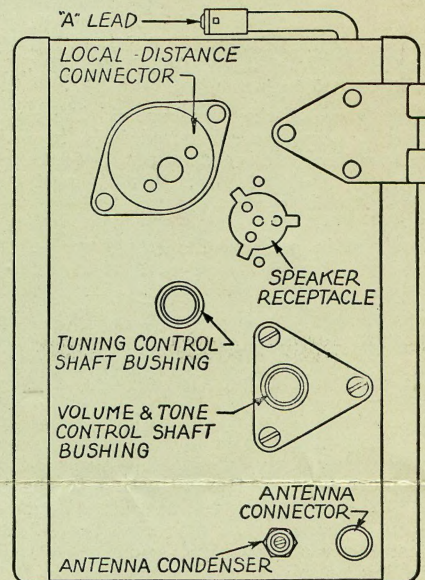


FIGURE 2

There may be some interference caused by an excessive gap between the distributor rotor and the high-tension contacts. This can be overcome by lengthening the contact end of the rotor. Place the metal end of the rotor on a steel block and peen or hammer it with a small machinist's hammer. Dress the end with a file so that it retains its original shape. The rotor should not brush or wipe the contacts, but should just clear them.

If the installation has been made carefully and the usual precautions observed, it should not be necessary to use spark plug resistors. In the event these operations do not reduce ignition disturbances to a satisfactory level, spark plug resistors should be installed. These can be obtained from the nearest Philco dealer or distributor.

## OPERATION

The radio switch is in the center of the control above the dial opening. The "off" position is to the right, the "on" position, to the left. The left-hand knob controls the volume and tone, the right-hand knob the tuning. The local-distance switch is in the center of the control at the bottom.

Turn the radio "on." Allow the tubes to heat up, then adjust the volume control and tune in the various programs.

The numbers on the dial are channel numbers which, with the addition of "0" to the number correspond to the frequency in kilocycles. Adjust the volume to a suitable level and re-check the tuning. The Receiver must be tuned so that the maximum signal is obtained. Since the Receiver is extremely selective, it is of the utmost importance that the Receiver be tuned right on the station. Careless tuning off to one side even though the signal is still heard, results in very poor tone quality and very mushy reception.

To operate the tone control, pull out on the volume control knob. This disengages the volume control and engages the tone control. Turning the knob clockwise increases the high notes while turning counter-clockwise emphasizes the bass. Speech is usually clearest when the control is in the bright



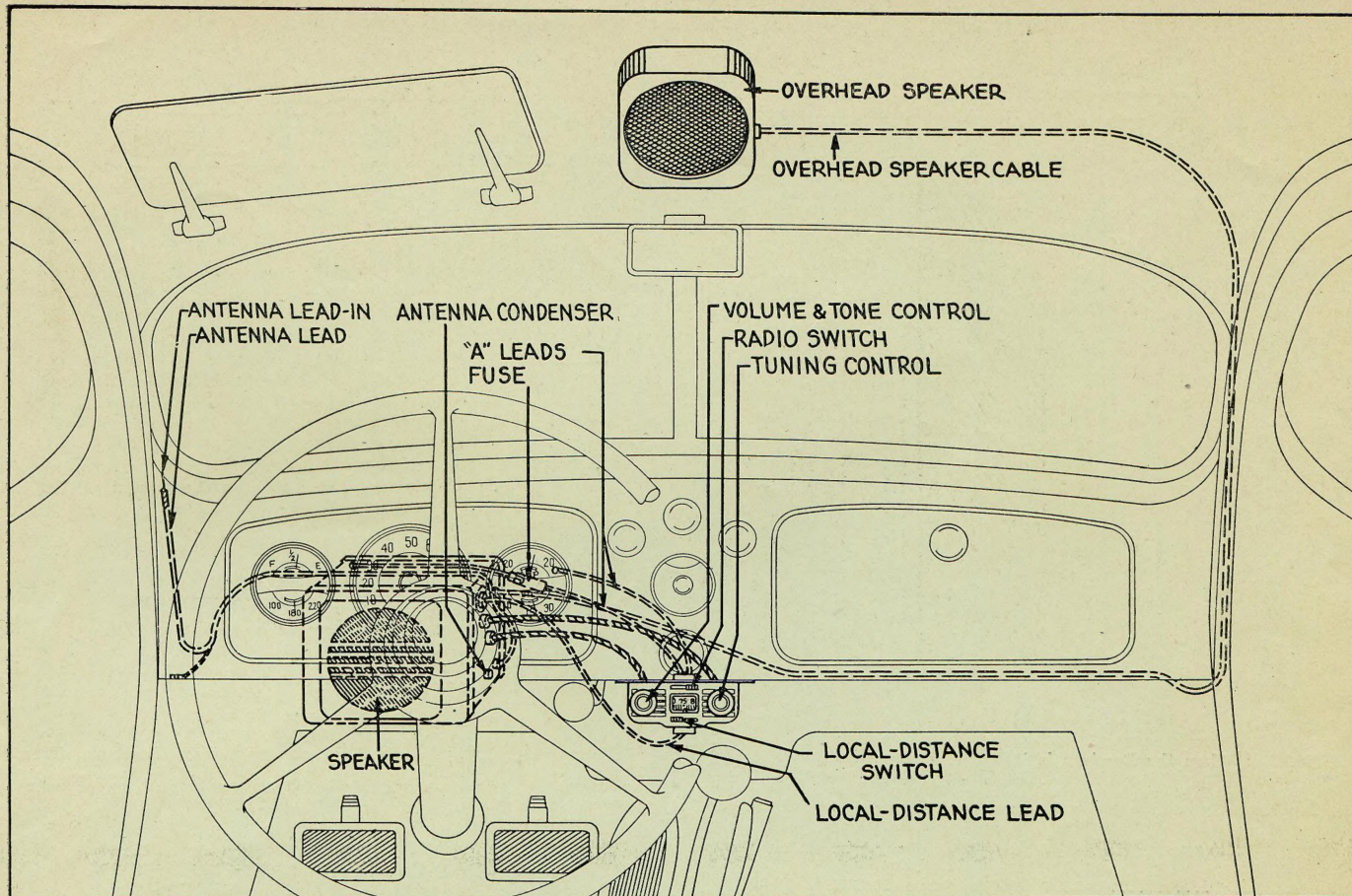


FIGURE 3

or brilliant position, while orchestras will sound best with the control set for more bass. After adjusting to the tone most pleasing, release the knob to restore the volume control action.

Another use of the tone control is as a static modifier. When driving through extremely noisy locations, the tone control should be set in the mellow or deep position. This will subdue the harsh rasping static.

When in the immediate vicinity of power lines or car lines, considerable man-made static or interference may be picked up. This man-made static as well as atmospheric static, is amplified along with the radio signal, but the effects of it can be minimized by tuning the Receiver to bring in the most powerful local station. Since the powerful local signal requires less amplification than other weaker signals, the automatic volume control in the Receiver reduces the amplification and enables the program to be received without most of the undesirable noises.

To make this further effective, the "local-distance" switch is provided in the Model 818. The "distance" position of the switch (in control head) is to the right, the "local" position to the left.

When the switch is in the "local" setting, the sensitivity of the Receiver is reduced and much quieter reception is attained.

With the switch in the "distance" setting, the Receiver is restored to its full sensitivity.

Except on very weak signals, the automatic volume control maintains the same volume level while driving along without continually manipulating the manual volume control, cuts out external interference, counteracts fading and prevents blasting of local stations while tuning. It is virtually impossible, however, to maintain satisfactory reception while driving under bridges or in places which are totally shielded, known as dead spots.

## MAINTENANCE AND SERVICE

The Receiver is fully covered by the Standard Warranty (see below). Read it carefully. Should this Receiver or

the Receiver installation ever require attention, go immediately to your dealer or to the service station that made the installation for efficient service.

The installation record should be filled out by your dealer at the time the installation is made. Keep the record for your protection in case you ever do require service.

**REPLACEMENT TUBES**— Use only PHILCO High Efficiency Tubes for replacements.

**REPLACEMENT PARTS**— Use only genuine PHILCO replacement parts. Don't jeopardize the performance of your Receiver by using inferior parts.

**DO NOT ATTEMPT TO ADJUST THE VIBRATOR**— If service is ever required, go to your dealer or to the nearest authorized Philco Auto Radio Service Station.

**REMOVE PAINT FROM  
UNDER SCREW HEAD**

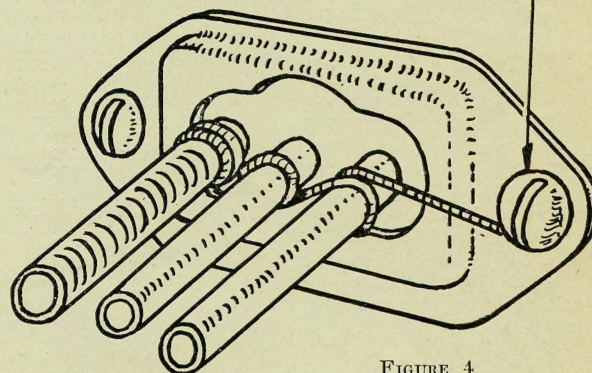


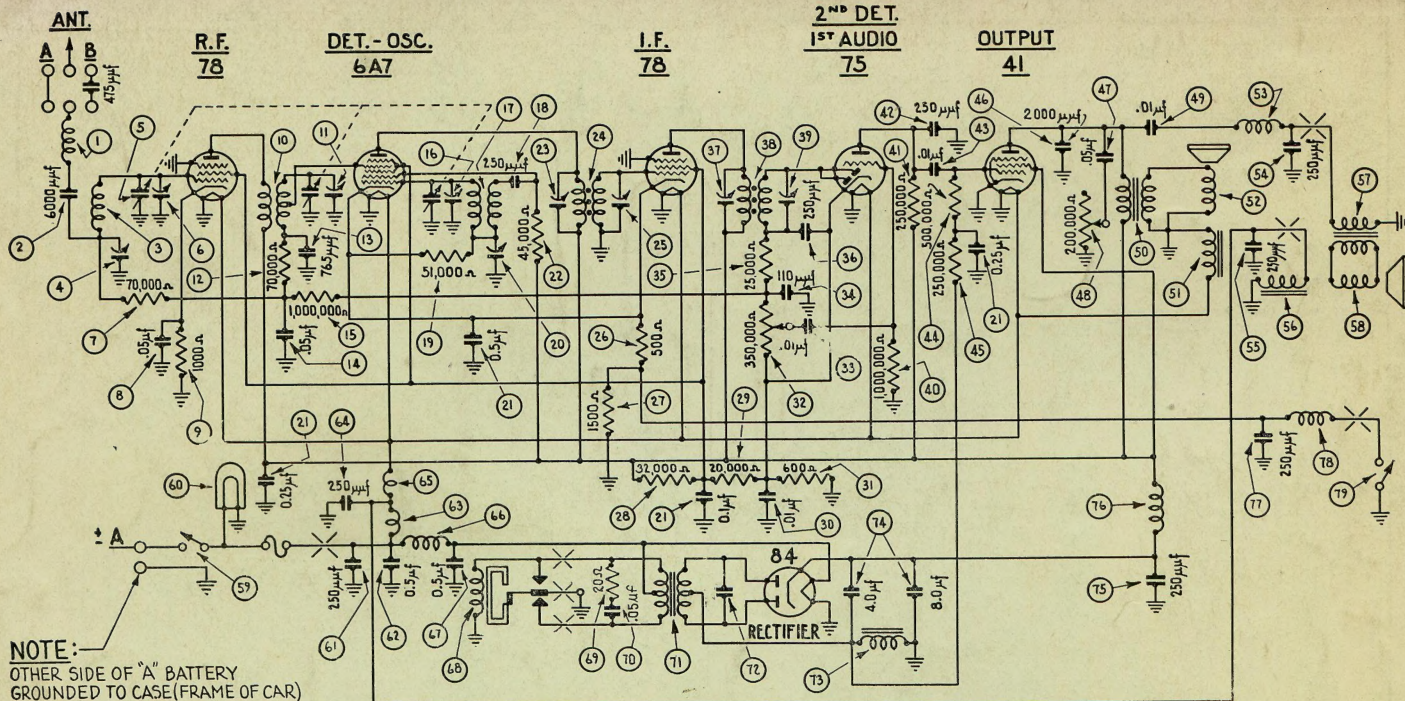
FIGURE 4

## STANDARD WARRANTY

We warrant each new Radio Receiver and Speaker manufactured by us to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at our factory or factory depots any part or parts thereof which shall, within ninety (90) days after delivery of such Receiver to the original purchaser, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties obligations or liabilities on our part, and we neither assume nor authorize any representative or other person to assume for

us any other liability in connection with the sale of our Receivers or Speakers. This warranty shall not apply to any Receiver or Speaker which shall have been repaired or altered outside of our factory or factory depots in any way so as, in our judgment to affect its stability or reliability, nor which has been subject to misuse, negligence or accident, nor which has had the serial number altered, effaced or removed. Neither shall this warranty apply to any Receiver or Speaker which has been connected otherwise than in accordance with the instructions furnished by us.





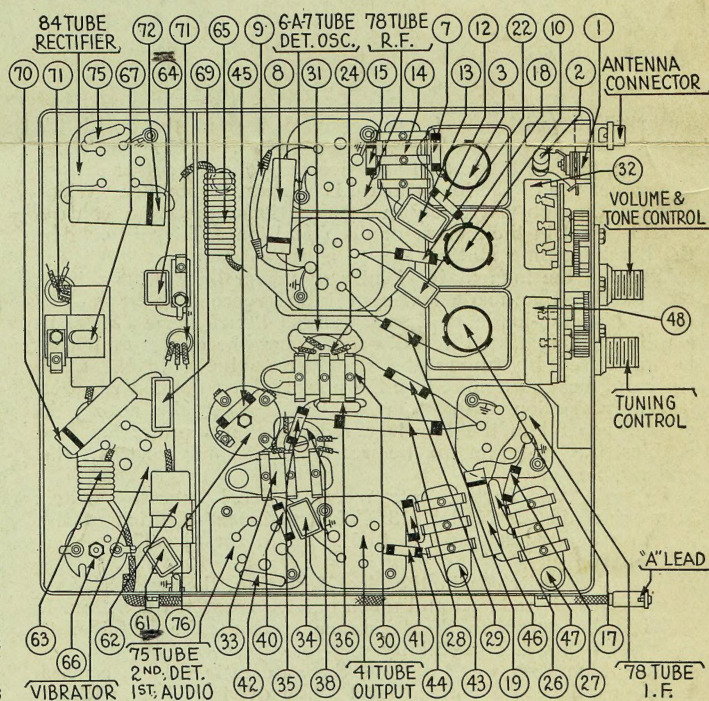
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**FIGURE 5**

**NOTE:** When the Receiver is installed in a car having a top antenna, under-car antenna, spare wheel antenna or antenna having a similarly low relative capacitance (50 mmf. to 450 mmf.) use connector plug in "A".  
When the Receiver is installed in a car having a metal insert top antenna, insulated door antenna, insulated trunk cover antenna or antenna having similarly high relative capacitance (450 mmf. to 2500 mmf.) use condenser plug in "B".

## MODEL 818—PARTS LIST

No.	Description	Part No.	No.	Description	Part No.
1	Antenna Choke	38-7516	33	Tone Control (200,000 ohms)	33-5150
2	Condenser (6000 mmf.)	30-4445	34	Condenser (.01 mfd.)	30-4381
3	Antenna Transformer	32-1984	35	Output Transformer	32-7495
4	Antenna Coupling Condenser	31-6082	36	Field Coil Assembly	36-3597
5	Tuning Condenser	31-1769	37	Cone & Voice Coil	36-3586
6	First Padder (on tun. cond.)	33-370334	38	Choke	32-1930
7	Resistor (70,000 ohms)	33-370334	39	Condenser (250 mmf.)	30-1032
8	Condenser (.05 mfd.)	30-4444	40	Condenser (250 mmf.)	30-1032
9	Resistor (1000 ohms)	33-3017	41	Field Coil Assembly	32-9236
10	R. F. Transformer	32-1985	42	Output Transformer	32-7507
11	Second Padder (on tun. cond.)	33-370334	43	Cone and Voice Coil	36-3526
12	Resistor (70,000 ohms)	33-370334	44	"On-Off" Switch	42-1160
13	Condenser (765 mmf.)	30-1069	45	Pilot Lamp	34-2039
14	Condenser (.05 mfd.)	3615-OSG	46	Condenser (250 mmf.)	30-1032
15	Resistor (1,000,000 ohms)	33-510344	47	Condenser (.5 mfd.)	30-4015
16	Third Padder (on tun. cond.)	33-370334	48	"A" Choke	32-1432
17	Oscillator Transformer	32-1986	49	Condenser (250 mmf.)	30-1032
18	Condenser (250 mmf.)	30-1032	50	Filament Choke	32-2038
19	Resistor (51,000 ohms)	33-351844	51	Vibrator Choke	32-2039
20	Low Frequency Padder	31-6083	52	Condenser (.5 mfd.)	30-4015
21	Condenser (.1-25-.25-.5 mfd.)	30-4415	53	Vibrator	41-3170D
22	Resistor (45,000 ohms)	33-345344	54	Resistor (20 ohms)	33-020133
23	Padder (Pri. 1st I. F. Trans.)	32-2026	55	Condenser (.05 mfd.)	30-4444
24	First I. F. Transformer	32-2026	56	Power Transformer	32-7550
25	Padder (Sec. 1st I. F. Trans.)	33-1213	57	Condenser (7500 mmf.)	30-4420
26	Resistor (500 ohms)	33-215334	58	Filter Choke	32-7545
27	Resistor (1500 ohms)	33-324334	59	Filter Condenser (4-8 mfd.)	30-2150
28	Resistor (32,000 ohms)	33-320334	60	Condenser (250 mmf.)	30-1032
29	Resistor (20,000 ohms)	33-320334	61	"B" Choke	32-1281
30	Condenser (.01 mfd.)	3903-OSG	62	Condenser (250 mmf.)	30-1032
31	Resistor (600 ohms)	33-1212	63	Choke	32-2063
32	Volume Control (350,000 ohms)	33-5149	64	Local-Distance Switch	42-1160
33	Condenser (.01 mfd.)	3903-OSU	65	Four Prong Socket	27-6044
34	Condenser (110 mmf.)	30-1031	66	Five Prong Socket	27-6035
35	Resistor (25,000 ohms)	33-325344	67	Six Prong Socket	27-6036
36	Condenser (250 mmf.)	30-1032	68	Seven Prong Socket	27-6037
37	Padder (Pri. 2nd I. F. Trans.)	32-2027	69	CB Speaker	36-1203
38	Second I. F. Transformer	32-2027	70	Idle Gear	28-7176
39	Padder (Sec. 2nd I. F. Trans.)	33-510344	71	Pinion Gear	28-7178
40	Resistor (1,000,000 ohms)	33-510344	72	Control Assembly	42-5537
41	Resistor (250,000 ohms)	33-424344	73	Tuning Control Shaft	28-8495
42	Condenser (250 mmf.)	30-1032	74	Volume Control Shaft	28-8499
43	Condenser (.01 mfd.)	3903-OSU	75	Pilot Lamp Assembly	38-7213
44	Resistor (500,000 ohms)	33-449344	76	Tuning and Volume Knob	27-4288
45	Resistor (250,000 ohms)	33-424344	77	Speaker Cable Assembly	41-3189
46	Condenser (2000 mmf.)	30-4177			
47	Condenser (.05 mfd.)	8326-OSU			



No.	Description	Part No.	No.	Description	Part No.
78	Distributor Resistor	33-1196	79	Fuse	7227
79	Interference Cond. (.5 mfd.)	30-4007	80	Fuse Insulator	27-7729
80	Condenser Connector	30-4412	81	"Tee" Bolt (Rec. Mtg.)	28-6161
81	Connector Plug	29-6423	82	Nut (Rec. Mtg.)	W518A

# TRANSITONE AUTOMOBILE RADIO CORP.

PHILADELPHIA, PA.

## Model 818—Installation Registration

Receiver Serial No. \_\_\_\_\_ Date \_\_\_\_\_  
 Installed by \_\_\_\_\_ Make and Year of Car \_\_\_\_\_  
 Owner's Name \_\_\_\_\_ Owner's Address \_\_\_\_\_  
**KEEP THIS INSTALLATION RECORD. IT IS IMPORTANT IN CASE YOU EVER REQUIRE SERVICE.**